

REMARKS

Prior to a first examination, please enter the foregoing amendments and the following remarks.

Claims 1-16 have been cancelled without prejudice. Claims 17-40 have been added. Claims 17-40 remain at issue in the application. Of those at issue, claims 17, 31, and 36 are independent claims.

Applicant believes that no new matter has been added through this preliminary amendment.

I. Divisional Application

The application papers filed herewith are a true copy of the prior complete application filed on September 19, 2000 having Application No. 09/665,034 which were also filed on September 15, 1998 as Application No. 09/153,630.

Pursuant to 35 U.S.C. 120 and 37 CFR 1.78(a), this divisional application filed under 37 CFR 1.53(b) claims the benefit and is a divisional of Application No. 09/665,034, filed September 9, 2000, now pending, which is a continuation of Application No. 09/153,630, filed September 15, 1998.

II. Restriction Requirement/New Claims

In the parent patent Application No. 09/665,034, an Office Action restricted claims 21-34 from other claims as being drawn to an alternate embodiment illustrated by Fig. 7. Claims 21-34 were withdrawn from consideration as being drawn to a non-elected invention and were subsequently cancelled without prejudice.

Applicant hereby presents new method claims 17-30 which correspond to claims 21-34 of Application No. 09/665,034 which were previously cancelled without prejudice.

Applicant has also added new method claims 31-40 which are also drawn to Fig. 7, as well as other figures in the application.

Of these newly added claims, claim 17, 31, and 36 are new independent claims.

Claims 18-30 depend directly or indirectly from independent claim 17.

Claims 32-35 depend directly or indirectly from independent claim 31.

Claims 37-40 depend directly or indirectly from independent claim 36.

III. Title

Applicant respectfully requests that the Title of the Application be changed to:

"METHODS OF SPLIT CAVITY WALL PLATING FOR AN INTEGRATED CIRCUIT PACKAGE"

IV. Specification

Applicant herein provides proposed specification amendments to correct overlapping reference numbers, to correct improper reference number usage, and correctly identify the element with its reference number.

Page 6, line 18, paragraph amendment support:

i) Figure 1, as originally filed, illustrates a side view of "a first bond shelf 18, a second bond shelf 20 and a third bond shelf 22." [Applicant's Specification, page 6, lines 13-14].

ii) Figure 4, as originally filed, illustrates a top view of "a first bond shelf 18, a second bond shelf 20 and a third bond shelf 22." [Applicant's Specification, page 6, lines 13-14].

ii) Figure 1, as originally filed, illustrates a bond pad 16 of the first bond shelf 18 coupling to either bus 24 or bus 26.

Page 7, line 23, paragraph amendment support:

i) layers 24 and 26 are described as busses 24 and 26 in the same paragraph at page 7, lines 26 and 27 of Applicant's originally filed specification.

ii) layer 28 is described as routing traces 28 at page 7, line 2 and page 8, line 19 of Applicant's originally filed specification.

iii) layer 30 is described as bus 30 at page 7, line 2 of Applicant's originally filed specification.

iv) layer 32 is described as contacts 32 in the same sentence, page 7, line 23 of Applicant's originally filed specification.

Page 8, line 1, paragraph amendment support:

i) Figure 1, as originally filed, illustrates "a first bond shelf 18, a second bond shelf 20 and a third bond shelf 22." [Applicant's Specification, page 6, lines 13-14].

ii) first bond shelf is designated by reference number 18 of Applicant's originally filed specification at page 6, lines 13-14.

iii) second bond shelf is designated by reference number 20 of Applicant's originally filed specification at page 6, lines 13-14.

iv) "first shelf 18" is referred to as "first bond shelf 18" of Applicant's originally filed specification at page 6, lines 13-14.

v) Figure 4 of Applicant's originally filed specification illustrates the first conductive strip 44 and the second conductive strip 46 wrapping around onto the first bond shelf 18 to connect to the bond pads 16 and not the second bond shelf 20.

vi) Figure 7 of Applicant's originally filed specification illustrates how the first conductive strip 44 and the second conductive strip 46 wrap around onto the first bond shelf 18 to connect to the bond pads 16.

vii) contacts are designated by the reference number 32 while printed circuit board is designated by reference number 34 in Applicant's originally filed specification at page 7, lines 5-6.

Page 8, line 24, paragraph amendment support:

i) Figure 1, as originally filed, illustrates "a first bond shelf 18, a second bond shelf 20 and a third bond shelf 22." [Applicant's Specification, page 6, lines 13-14]. Figure 5, as originally filed, illustrates from top to bottom, starting on top, the first bond shelf 18, the second bond shelf 20, and the third bond shelf 22. This can readily be confirmed by looking at the layer of busses 24 and 26, the layer of layer of routing traces 28, and the layer of bus 30 referenced in Figures 1 and 5 as originally filed.

ii) Figure 4 as originally filed illustrates the conductive strips 44 and 46 along the edge of the first bond shelf 18.

iii) To plate along the edge of the first bond shelf 18, the edge of the first bond shelf 18 would not be masked off by the plating resist maskant 50.

iv) Figure 5 as originally filed illustrates the plating resist maskant 50 absent from the edge of the first bond shelf 18.

v) Figure 5 as originally filed illustrates the plating resist maskant 50 on the edges of the second bond shelf 20 and the third bond shelf 22 as well as the top of the second bond shelf 20 and the third bond shelf 22 and portions of the top of the first bond shelf 18.

vi) Figure 4 as originally filed illustrates "notches 48 [] drilled into the edges of the first bond shelf 18 to separate the plated material into the first and second conductive strips 44 and 46." [Applicant's Specification, page 9, lines 4-46].

Page 9, line 9, paragraph amendment support:

i) Figure 7 as originally filed illustrates a portion 54 of the conductive strips 44 or 46 extending onto the first bond shelf 18 to connect to the bonding pad 16.

ii) Applicant's specification describes "a first conductive strip 44 and a second conductive strip 46 that wrap around an edge of the first bond shelf [18] to connect the bond pads 16 to the power busses 24 and 26." [Applicant Specification, as amended, page 8, lines 1-4]. "Some of the bond pads 16 are connected by strip 44 to bus 24 while other bond pads 16 are connected to bus 26 by strip 46." [Applicant Specification, page 8, lines 6-7]. "[O]ther bond pads 16 on the first [bond] shelf [18] are interconnected to other layers and/or contacts [32] by vias 38." [Applicant Specification, as amended, page 8, lines 10-11.]

V. Drawings

Applicant has amended Figures 1, 4, and 5 as indicated by pink highlighter on the annotated drawing sheets attached hereto as Exhibit B. Three replacement drawings sheets are provided attached hereto as Exhibit A which include these amendments.

In Figure 1, the reference designators 44 and 46 ("44,46") are added to the conductive strip at the edge of the first bond shelf 18. Dashed lines between the pad 16 and busses 24,26 are deleted. The connection between the conductive strip 44,46 and the bond pad 16 is amended to be shown in accordance with Figure

7. That is, Figure 7 as originally filed provides the support for this amendment.

In Figure 4, the end of busses 42, 24, are amended to more clearly show how bus 24 may connect to strip 44 in accordance with Figure 1. The width of bus 26 is amended to more clearly show how bus 26 connects to strip 46 in accordance with Figure 1. That is, Figure 1 as originally filed provides the support for these amendments. Figure 4 was further amended to show the connection between the conductive strip 44,46 and the bond pad 16 in accordance with Figure 7. That is, Figure 7 as originally filed provides the support for this amendment.

In Figure 5, for purposes of clarity, a reference number 18 has been added to indicate the first bond shelf 18 in accordance with Figures 1, 2, 4, 6 and 7. That is, Figures 1, 2, 4, 6 and 7 as originally filed provide the support for this amendment. Figure 5 was further amended to add a reference number 49 to clarify that the edge 49 is the unmasked edge of the first bond shelf 18.

Applicant respectfully requests the Examiner's approval of these drawing changes to Figures 1, 4, and 5.

CONCLUSION

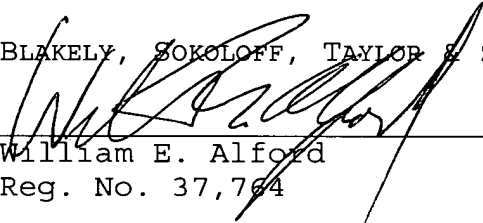
A first examination of the pending claims is respectfully requested. Allowance of the claims at an early date is hereby respectfully solicited.

The Examiner is invited to contact Applicant's undersigned counsel by telephone at (714) 557-3800 to expedite the prosecution of this case should there be any unresolved matters remaining.

Respectfully submitted,

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Susan McFarlane
09/08/2003
Date